14. ~~15.~~ Method according to claim 12, wherein the information units are encoded by Pulse Position Modulation.

15. ~~16.~~ Method according to claim 12, wherein with the setting of the transmission-rate parameter, a data rate of information units is adapted to the link-quality measure.

16. ~~17.~~ Method according to claim ~~16~~ 15, wherein the data rate depends on a repetition of information units.

17. ~~18.~~ Method according to claim 12, being carried out by means of a computer program.

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19. Computer readable program code means for causing a computer to effect a determination of a link-quality measure in order to set a transmission-rate parameter for transmission of information units in a wireless communication system, comprising the steps of:

- counting a total number of received information units;
- counting an error number of received invalid information units;
- dividing said error number by said total number and providing the division result as a link-quality measure;
- comparing said link-quality measure with at least one predefined value; and
- automatically setting said transmission-rate parameter depending on the result of the comparison.

REMARKS

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Claims 16 and 18 have been rejected under 35 U.S.C. §112 as being indefinite. The suggested changes have been made. Also, parenthetical information has been removed from the claims as well as phrasing that includes the word "preferably".

Claims 3, 4, 6 and 14 are considered allowable if rewritten so as to not depend from a claim that is not allowed. This has been done, so Claims 3, 4, 6 and 14 should be in condition for allowance.

Claims 1, 2, 5, 7-13 and 15-19 have been rejected under 35 U.S.C. §103 as being unpatentable over MATSUKANE in view of WALLACE.

MATSUKANE describes a statistics calculator that evaluates link quality, but the result of the link quality evaluation is not to automatically adapt the data rate of the system but rather to provide an indication to a user that the communication quality is deteriorating. There is no teaching or suggestion that the MATSUKANE system automatically changes the data rate in any way in response to the link quality evaluation as taught by applicant.

In order to emphasize this difference, the word automatically has been added to Claims 1, 12 and 19.

The Examiner recognizes that recited details of the MATSUKANE statistics calculator are not taught or suggestted by MATSUKANE. These details are said to be

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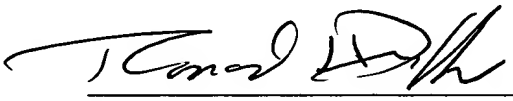
supplied by WALLACE. However, the cited portions do not appear to describe the missing details. Furthermore, WALLACE also fails to teach or suggest the concept of changing the data rate automatically in response to the determined link quality.

CONCLUSIONS

It is believed that all of the pending claims fully meet all of the requirements of 35 U.S.C. § 112 and also distinguish readily over all of the cited art, when taken individually and in combination. Accordingly, allowance of the pending claims is believed to be in order and is respectfully solicited.

Respectfully submitted,



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VERSION OF CLAIMS SHOWING CHANGES MADE

1. (AMENDED) An apparatus for setting a transmission-rate parameter [(RR*)] for transmission of information units [(IU)] in a wireless communication system, comprising:

- a total counter [(1)] for counting a total number [(L_{seq})] of received information units [(IU)];
- an error counter [(2)] for counting an error number [(*SEC*)] of received invalid information units [(EIU)];
- a division unit [(3)] for dividing said error number [(*SEC*)] by said total number [(L_{seq})], the division result being providable as a link-quality measure [(*LQM*)] at an output [(5)] of said division unit [(3)]; and
- a decision unit [(4)] for automatically setting said transmission-rate parameter [(RR*)] by comparing said link-quality measure [(*LQM*)] with at least one predefined value [($TH_{RR>1}$, $TH_{RR>2}$, $TH_{RR>4}$, $TH_{RR>8}$)] and defining said transmission-rate parameter [(RR*)] to assume a corresponding data rate.

2. (AMENDED) Apparatus according to claim 1, wherein the link-quality measure [(*LQM*) and/or] or the transmission-rate parameter [(RR*) are/is] is sequentially updatable.

3. (AMENDED) An apparatus for setting a transmission-rate parameter for transmission of information units in a wireless communication system, comprising:

- a total counter for counting a total number of received information units;
- an error counter for counting an error number of received invalid information units;
- a division unit for dividing said error number by said total number, the division result being providable as a link-quality measure at an output of said division unit; and

- a decision unit for setting said transmission-rate parameter by comparing said link-quality measure with at least one predefined value and defining said transmission-rate parameter to assume a corresponding data rate [Apparatus according to claim 1],

wherein the link-quality measure [(*LQM*)] is derivable iteratively increasing [the] said total number [(L_{seq}), preferably] after $2^n * f$ counted information units [(IU)], with $n = 0, 1, 2, \ldots$ and f a defined factor [, preferably $f = 256$].

4. (AMENDED) Apparatus according to claim 3, wherein the division is executable at [an] a multiple of factor f automatically by a shift operation corresponding to n.

5. (TWICE AMENDED) Apparatus according to claim 1, wherein the error number [(*SEC*)] is maintained between at least two subsequent updates of the link-quality measure [(*LQM*)] .

6. (AMENDED) An apparatus for setting a transmission-rate parameter for transmission of information units in a wireless communication system, comprising:

- a total counter for counting a total number of received information units;
- an error counter for counting an error number of received invalid information units;
- a division unit for dividing said error number by said total number, the division result being providable as a link-quality measure at an output of said division unit; and
- a decision unit for setting said transmission-rate parameter by comparing said link-quality measure with at least one predefined value and defining said transmission-rate parameter to assume a corresponding data rate [Apparatus according to claim 1],

wherein the division unit [(3)] comprises storage cells [(6)] having a shift control, or comprises a multiplexer having a static logic.

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7. (AMENDED) Apparatus of claim 1 further comprising a control unit [(7)] which controls the total counter [(1)], the error counter [(2)], the division unit [(3)], and the decision unit [(4)].

8. (AMENDED) Apparatus according to claim 1, wherein the division unit [(3)] comprises the error counter [(2)].

9. (AMENDED) Apparatus according to claim 1, wherein the decision unit [(4)] comprises at least one comparator [(81, 82, 83, 84)] and a derivation unit [(11)] for deriving from at least one output of said comparator [(81, 82, 83, 84)] the transmission-rate parameter [(RR*)].

10. (AMENDED) Apparatus according to claim 1, wherein at least four predefined values [($TH_{RR>1}$, $TH_{RR>2}$, $TH_{RR>4}$, $TH_{RR>8}$)] are preloadable thresholds which correspond to a data rate of 4, 2, 1, 0.5 or 0.25 Mb/s, respectively.

11. An adaptive variable data-rate system for transmitting data over an infrared link comprising an apparatus according to claim 1.

12. (AMENDED) A method for setting a transmission-rate parameter [(RR*)] for transmission of information units [(IU)] in a wireless communication system, comprising the steps of:
- counting a total number [(L_{seq})] of received information units [(IU)];
- counting an error number [(*SEC*)] of received invalid information units [(EIU)];
- dividing said error number [(*SEC*)] by said total number [(L_{seq})] and providing the division result as a link-quality measure [(*LQM*)];
- comparing said link-quality measure [(*LQM*)] with at least one predefined value [($TH_{RR>1}$, $TH_{RR>2}$, $TH_{RR>4}$, $TH_{RR>8}$)]; and
- automatically setting said transmission-rate parameter [(RR*)] depending on the result of the comparison.

13. (AMENDED) Method according to claim 12, wherein the link-quality measure [(*LQM*) and/or] or the transmission-rate parameter [(RR*) are/is] is sequentially updated.

14. (AMENDED) A method for setting a transmission-rate parameter for transmission of information units in a wireless communication system, comprising the steps of:
- counting a total number of received information units;
- counting an error number of received invalid information units;
- dividing said error number by said total number and providing the division result as a link-quality measure;
- comparing said link-quality measure with at least one predefined value; and
- setting said transmission-rate parameter depending on the result of the comparison
[Method according to claim 12], wherein the link-quality measure [(*LQM*)] is derived

after receiving a number of information [unit (IU)] units that [are multiples] is a multiple of 2^n, with $n = 0, 1, 2, ...$ [and preferably multiples of 256].

15. (AMENDED) Method according to claim 12, wherein the information units [(IU)] are encoded by Pulse Position Modulation [(PPM), preferably by L-slot PPM (L-PPM)].

16. (AMENDED) Method according to claim 12, wherein with the setting of the transmission-rate parameter [(RR*)], a data rate of information units [(IU)] is adapted to the link-quality measure [(*LQM*)].

17. (AMENDED) Method according to claim 16, wherein the data rate depends on a repetition of information units [(IU)].

18. (AMENDED) Method according to claim 12, being carried out by means of [technical means, such as] a computer program.

19. (AMENDED) Computer readable program code means for causing a computer to effect a determination of a link-quality measure [(*LQM*)] in order to set a transmission-rate parameter [(RR*)] for transmission of information units [(IU)] in a wireless communication system, comprising the steps of:
- counting a total number [(L_{seq})] of received information units [(IU)];
- counting an error number [(*SEC*)] of received invalid information units [(EIU)];
- dividing said error number [(*SEC*)] by said total number [(L_{seq})] and providing the division result as a link-quality measure [(*LQM*)];

- comparing said link-quality measure [(*LQM*)] with at least one predefined value [($TH_{RR>1}$, $TH_{RR>2}$, $TH_{RR>4}$, $TH_{RR>8}$)]; and
- automatically setting said transmission-rate parameter [(RR*)] depending on the result of the comparison.